

ARIZONA DEPARTMENT OF HEALTH SERVICES
BUREAU OF EMERGENCY MEDICAL SERVICES AND TRAUMA SYSTEM



COUNTY TRAUMA REPORTS:
APACHE COUNTY
ASTR 2012

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Data and Quality Assurance

Purpose:

The purpose of this report is to describe the incidence of trauma in your county using the Arizona State Trauma Registry (ASTR). This information can develop and strengthen injury prevention programs at the county level.

Methods:

In 2012, the Arizona State Trauma Registry (ASTR) received data from 31 state-designated trauma centers. Three additional healthcare institutions participated in the registry but were not designated. The Arizona trauma system had eight Level I trauma centers - six were located in the central county of Maricopa with 60 percent of the state's population; the remaining two Level I trauma centers were located in the northern-most county of Coconino and the southern county of Pima. For the 2012 reporting year, there were twenty designated Level IV and three Level III trauma centers dispersed primarily in the rural areas of the state. There are a total of 32,602 records in the ASTR for 2012.

Limitations:

Data is limited to participating hospitals in the state. Information on patients that were treated at out of state and non-participating hospitals will be missed. Injuries included in this registry are those which fit the ASTR inclusion criteria (Appendix 1). As such, injuries reported are reflective of severe injuries, and may not be a complete picture of injury in your county.

Geo-Population:

Arizona is 400 miles long and 310 miles wide for a total area of 114,006 square miles. The topography of the state is 364 square miles of water and a blend of deserts, mountains, and plateaus. Arizona shares contiguous borders with the states of California, Colorado, Nevada, New Mexico, and Utah. Internationally, the Mexican states of Sonora, Chihuahua, and Baja California Norte share a border with Arizona.

The total reported population in 2012 was 6,498,570; this was up from the 2011 reported number of 6,438,178 residents.¹ In 2012, 84.2 percent of the population lived in urban counties (Maricopa, Pima, Pinal, and Yuma). The remaining counties (Apache, Cochise, Coconino, Gila, Graham, Greenlee, La Paz, Mohave, Navajo, Santa Cruz, and Yavapai) were home to 15.8 percent of the population.

Additionally, Arizona has within its borders twenty-two (22) federally recognized American Indian tribes, comprising a 2012 collective population of 305,029.

¹ <http://www.azdhs.gov/plan/menu/info/pop/index.php?pg=2012>

Health Care Institution	Address	Effective Date	Expiration Date
Level I Trauma Centers			
Banner Good Samaritan Medical Center	925 E. McDowell Rd., Phoenix, AZ 85006	11/19/11	11/19/14
Dignity Health, dba Chandler Regional Medical Center (Provisional Designation)	1955 W. Frye Rd., Chandler, AZ 85224	3/24/14	9/24/15
Flagstaff Medical Center	1200 N. Beaver St., Flagstaff, AZ 86001	05/27/14	05/27/17
John C. Lincoln - North Mountain	250 E. Dunlap Ave., Phoenix, AZ 85020	04/24/14	04/24/15
Maricopa Medical Center	2601 E. Roosevelt, Phoenix, AZ 85008	12/20/11	12/20/14
Phoenix Children's Hospital	1919 E. Thomas Rd., Phoenix, AZ 85016	08/31/12	08/31/15
St. Joseph's Hospital & Medical Center	350 W. Thomas Rd., Phoenix, AZ 85013	11/20/13	11/20/16
Scottsdale Healthcare – Osborn	7400 E. Osborn, Scottsdale, AZ 85251	10/25/11	10/25/14
The University of Arizona Medical Center – University Campus	1501 N. Campbell Ave., Tucson, AZ 85724	11/12/11	11/12/14
West Valley Hospital (Provisional Designation)	13677 W. McDowell Road, Goodyear, AZ 85395	7/21/14	1/21/16
Level III Trauma Centers			
Banner Baywood Medical Center	6644 E. Baywood Ave., Mesa, AZ 85206	05/12/14	02/25/15
John C. Lincoln Deer Valley Hospital	19829 N. 27 th Ave., Phoenix, AZ 85027	06/09/14	4/08/17
Mountain Vista Medical Center	1301 S. Crismon Rd., Mesa, AZ 85209	7/23/14	7/26/16
Level IV Trauma Centers			
Banner Boswell Medical Center	10401 W. Thunderbird Blvd., Sun City, AZ 85351	12/17/12	12/17/15
Banner Del E. Webb Medical Center	14502 W. Meeker Blvd, Sun City West, AZ 85375	01/09/14	01/09/17
Banner Estrella Medical Center	9201 W. Thomas Road, Phoenix, AZ 85037	08/30/12	08/30/15
Banner Gateway Medical Center	1900 N. Higley Road, Gilbert, AZ 85234	01/02/13	01/02/16
Banner Ironwood Medical Center	37000 N. Gantzel Rd., San Tan Valley, AZ 85140	10/11/12	10/11/15
Banner Page Hospital	501 N. Navajo, Page, AZ 86040	11/05/11	11/05/14
Benson Hospital	450 S. Ocotillo Ave., Benson, AZ 85602	03/03/14	03/03/17
Chinle Comprehensive Health Care Facility	P.O. Drawer PH, Chinle, AZ 86503	09/09/13	09/09/16
Cobre Valley Regional Medical Center	5880 S. Hospital Dr., Globe, AZ 85501	11/26/12	11/26/15
Copper Queen Community Hospital	101 Cole Ave., Bisbee, AZ 85603	12/01/12	12/01/15
Havasu Regional Medical Center	101 Civic Center Ln., Lake Havasu City, AZ 86403	01/20/14	01/20/17
Kingman Regional Medical Center	3269 Stockton Hill Rd., Kingman, AZ 86409	10/15/12	10/15/15

Health Care Institution	Address	Effective Date	Expiration Date
La Paz Regional Hospital	1200 W. Mohave Rd., Parker, AZ 85344	06/02/12	06/02/15
Mt. Graham Regional Medical Center	1600 S. 20 th Ave., Safford, AZ 85546	03/20/14	03/20/17
Northern Cochise Community Hospital	901 W. Rex Allen Dr., Willcox, AZ 85643	12/04/11	12/04/14
Oro Valley Hospital	1551 East Tangerine Road, Oro Valley, AZ 85755	4/18/13	4/18/16
Payson Regional Medical Center	807 S. Ponderosa Street, Payson, AZ 85541	11/22/13	11/22/16
Summit Healthcare Regional Medical Center	2200 Show Low Lake Rd., Show Low, AZ 85901	08/12/14	08/12/17
The University of Arizona Medical Center South Campus	2800 E. Ajo Way, Tucson, AZ 85713	08/13/13	08/13/16
Tuba City Regional Health Care Corp.	P.O. Box 600, Tuba City, AZ 86045	05/06/12	05/06/15
Verde Valley Medical Center	269 S. Candy Ln., Cottonwood, AZ 86326	08/18/11	08/18/14
White Mountain Regional Medical Center	118 S. Mountain Ave., Springerville, AZ 85938	06/18/12	06/18/15
Wickenburg Community Hospital	520 Rose Ln., Wickenburg, AZ 85390	08/08/14	08/08/17
Yavapai Regional Medical Center – West Campus	1003 Willow Creek Road, Prescott, AZ 86301	01/10/14	01/10/17
Yavapai Regional Medical Center – East Campus	7700 E. Florentine, Prescott Valley, AZ 86314	6/24/14	6/24/17

Updated as of October 1, 2014

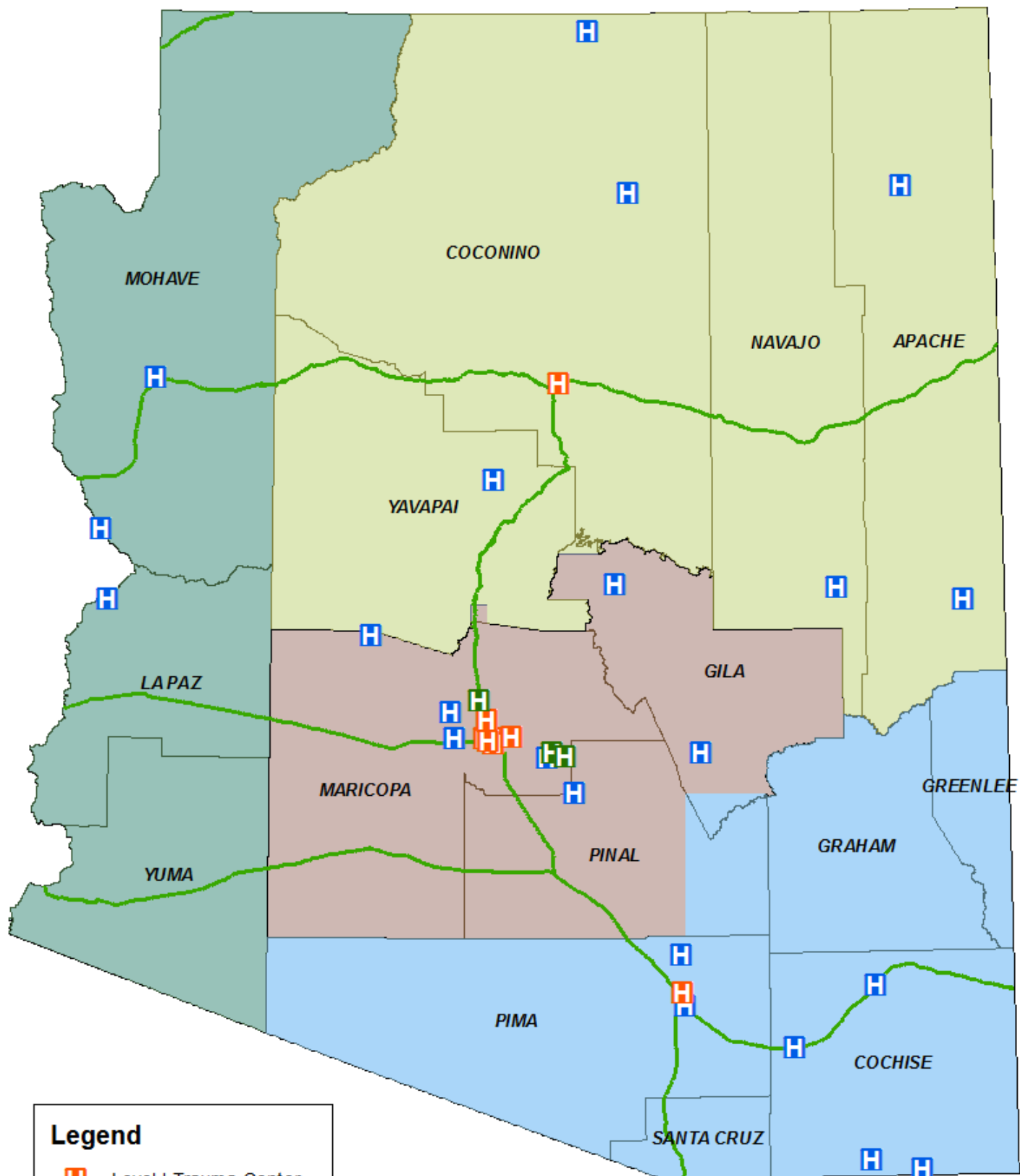


FIGURE 1: Apache County population by age, gender, and race/ethnicity, AZ Health & Vital Statistics

Group		Count	Percent
Age	<1	1,019	1.4%
	1-4	4,468	6.2%
	5-9	6,164	8.5%
	10-14	6,330	8.8%
	15-19	6,387	8.8%
	20-24	4,968	6.9%
	25-34	7,917	10.9%
	35-44	7,985	11.0%
	45-54	9,618	13.3%
	55-64	8,490	11.7%
	65-74	5,564	7.7%
	75-84	2,590	3.6%
	85+	813	1.1%
Gender	Female	36,283	50.2%
	Male	36,027	49.8%
Race/Ethnicity	American Indian/Alaska Native	53,005	73.3%
	Other	19,305	26.7%
Total		72,310	100%

FIGURE 2: Trauma frequency and rate per 100,000 by county

County of Injury	Total Population	Percent of Population	Trauma Count	Percent of All Traumas	Trauma Rate per 100,000
Apache	72,310	1.1%	742	2.3%	1,026
Cochise	130,753	2.0%	1,127	3.5%	862
Coconino	134,313	2.1%	1,853	5.7%	1,380
Gila	53,627	0.8%	551	1.7%	1,027
Graham	37,313	0.6%	119	0.4%	319
Greenlee	8,599	0.1%	41	0.1%	477
La Paz	20,902	0.3%	156	0.5%	746
Maricopa	3,884,706	59.8%	14,873	45.6%	383
Mohave	203,072	3.1%	970	3.0%	478
Navajo	107,922	1.7%	873	2.7%	809
Pima	990,380	15.2%	4,925	15.1%	497
Pinal	389,192	6.0%	1,738	5.3%	447
Santa Cruz	48,725	0.7%	180	0.6%	369
Yavapai	211,582	3.3%	1,037	3.2%	490
Yuma	205,174	3.2%	2,062	6.3%	1,005
Other	-	-	552	1.7%	-
Total	6,498,570	100%	32,602	97.5%	502
Missing = 803					

Statewide, there were 32,602 traumatic injuries seen at state designated trauma centers– a rate of 502 per 100,000 Arizona residents.

Apache County makes up about one percent of the total population of Arizona. Injuries occurring in the county make up about 2.3 percent of the trauma cases from state designated trauma centers. The county-specific trauma rate, 1,026 per 100,000 county residents, is higher than the state average (Figure 3).

FIGURE 3: County-specific trauma rates per 100,000 residents

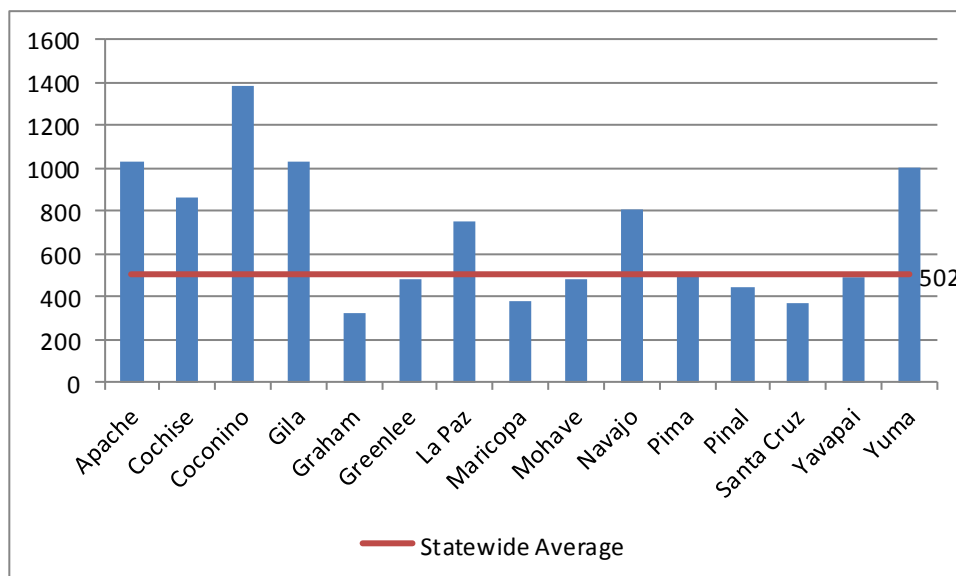


FIGURE 4: Frequency and rate of trauma by age, race/ethnicity, and gender in Apache County

Group		Count	Percent	Rate per 100,000
Age	<1	18	2.4%	1,767
	1-4	36	4.9%	806
	5-9	28	3.8%	454
	10-14	24	3.2%	379
	15-19	61	8.2%	955
	20-24	80	10.8%	1,610
	25-34	141	19.0%	1,781
	35-44	108	14.6%	1,353
	45-54	83	11.2%	863
	55-64	68	9.2%	801
	65-74	46	6.2%	827
	75-84	27	3.6%	1,043
	85+	22	3.0%	2,706
Gender	Female	268	36.1%	739
	Male	474	63.9%	1,316
Race/Ethnicity	American Indian/Alaska Native	403	54.3%	760
	Other	320	43.1%	1,658
Total		742	100%	1,026

The trauma rate is higher in Apache County many age groups (Figure 4), as compared to the rest of the state. The highest trauma rate is among the >85 age group (2,706 traumatic injuries per 100,000 county residents), due to the small number of Apache County residents that are within that age group.

FIGURE 5: Trauma rate per 100,000 residents by age

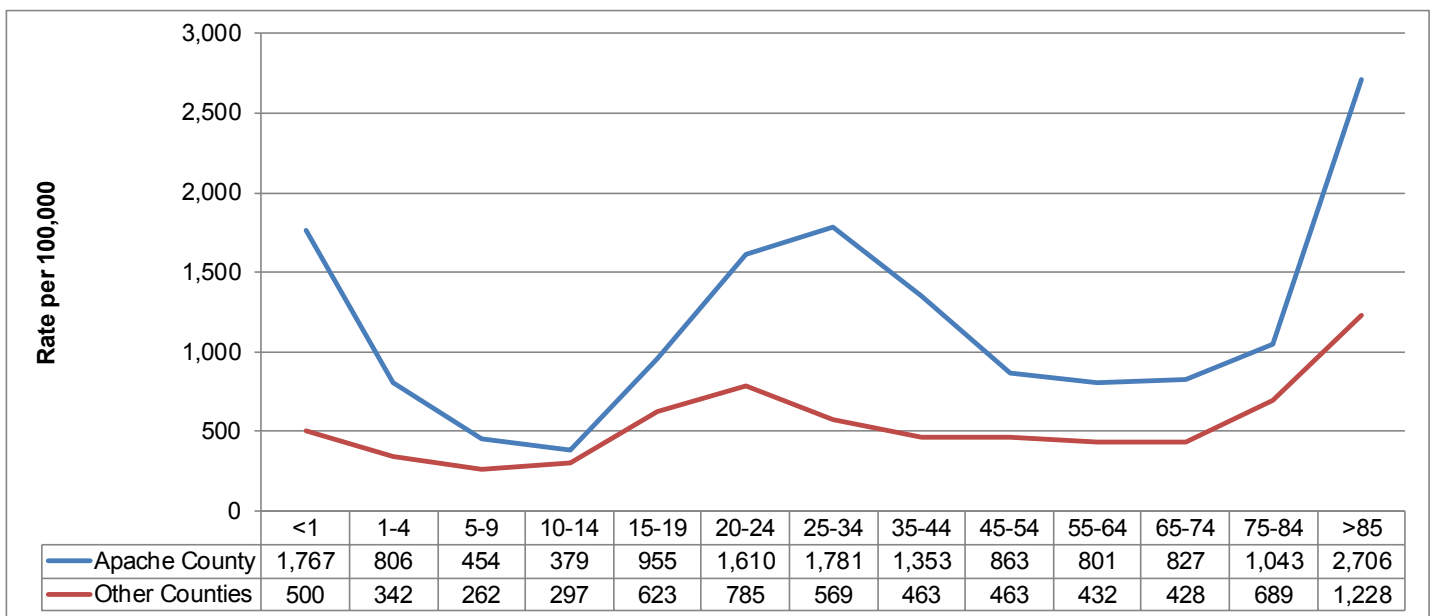
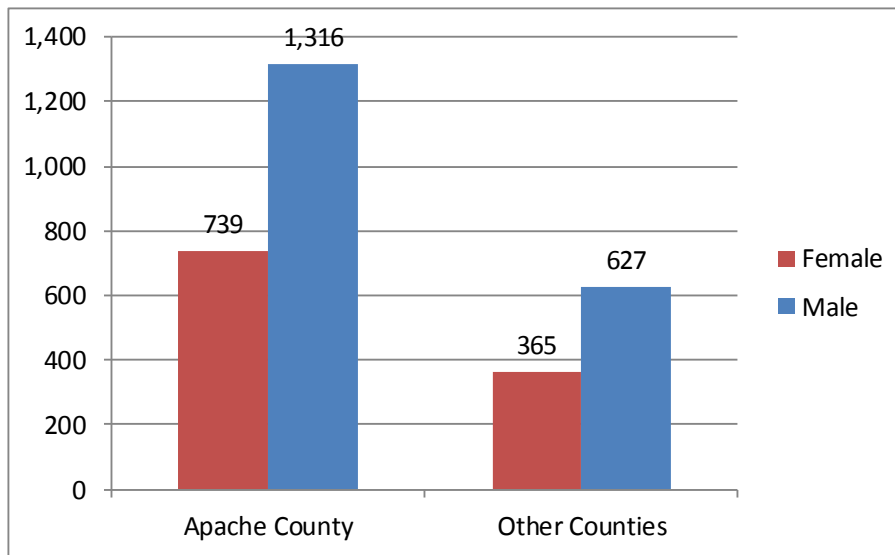
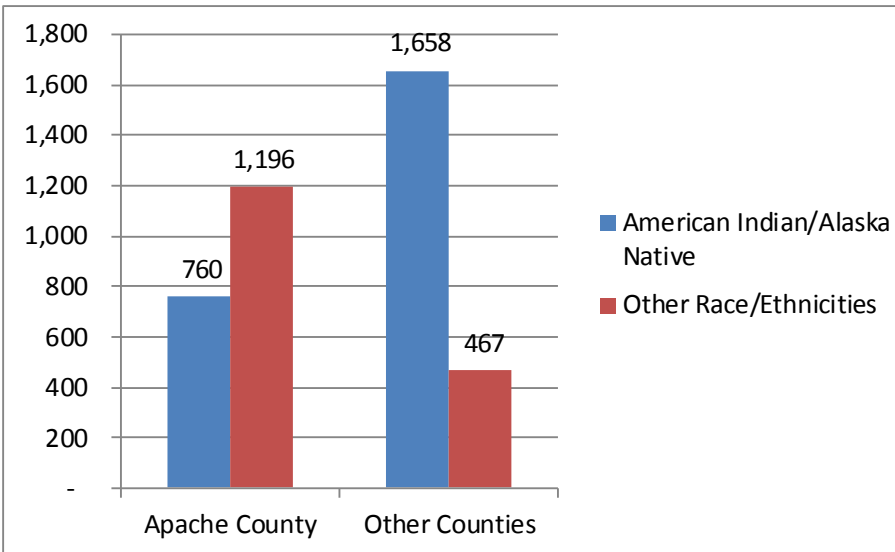


FIGURE 6: Trauma rate per 100,000 residents by gender



Males in Apache County have nearly two times the rate of trauma than their counterparts in other counties (Figure 6).

FIGURE 7: Trauma rate per 100,000 residents by race/ethnicity



Non-Native Americans in Apache County have a higher trauma rate than in other counties (Figure 7).

Figure 9 shows the top causes of traumatic injury in Apache County, as compared with other counties (rates per 100,000).

FIGURE 8: Frequency of top causes of trauma in Apache County

Cause	Count	Percent
Falls	161	31.27%
Motor Vehicle Traffic	103	27.49%
Struck by/Against	80	14.29%
Transport, other	48	8.63%
Cut/Pierce	24	5.53%
Unspecified	91	3.91%

FIGURE 9: Top causes of trauma, rates per 100,000 residents

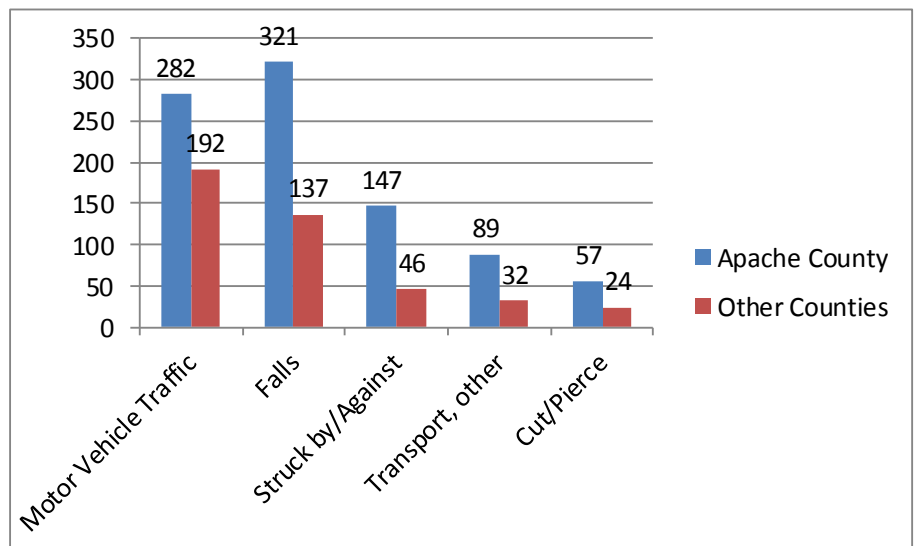
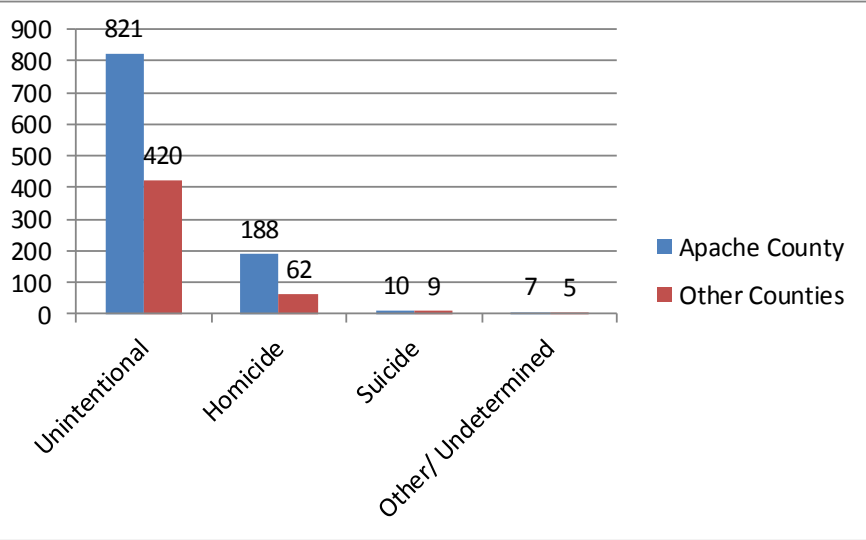


FIGURE 10: Intention of trauma, rate per 100,000 residents



The rates of unintentional and homicidal intent trauma in Apache County are higher than in other Arizona counties (Figure 10).

Documented alcohol and drug use was present in 33.4% and 14% of traumatic injuries in Apache County, respectively (Figure 11).

Alcohol and drug use is defined as any indication of use through testing or self-report, regardless of level of impairment.

Due to the large amount of missing data on drug and alcohol use, results on the proportion of traumatic injuries involving substance use are not conclusive.

FIGURE 11: Substance use in traumatic injuries in Apache County

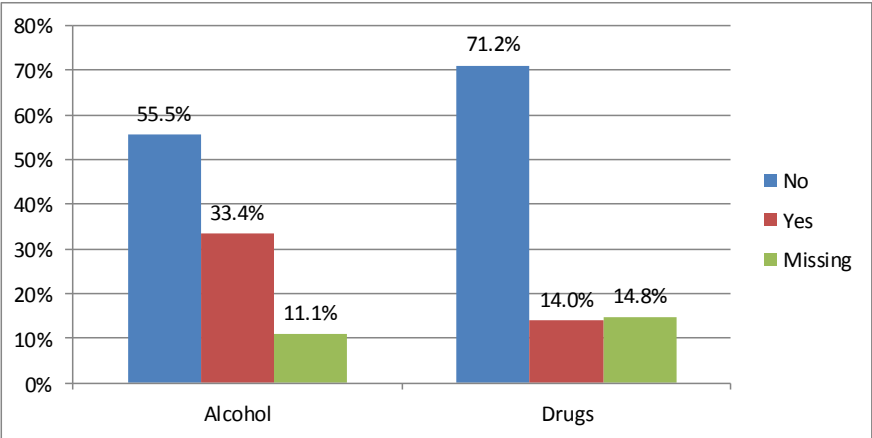


FIGURE 12: Frequency of substance use in traumatic injuries in Apache County

Substance Use		Frequency	Percent
Alcohol	No	412	55.5%
	Yes	248	33.4%
	Missing	82	11.1%
	Total	742	100%
Drugs	No	528	71.2%
	Yes	104	14.0%
	Missing	110	14.8%
	Total	742	100%

FIGURE 13: Proportion of ground and air ambulance transports in Apache County

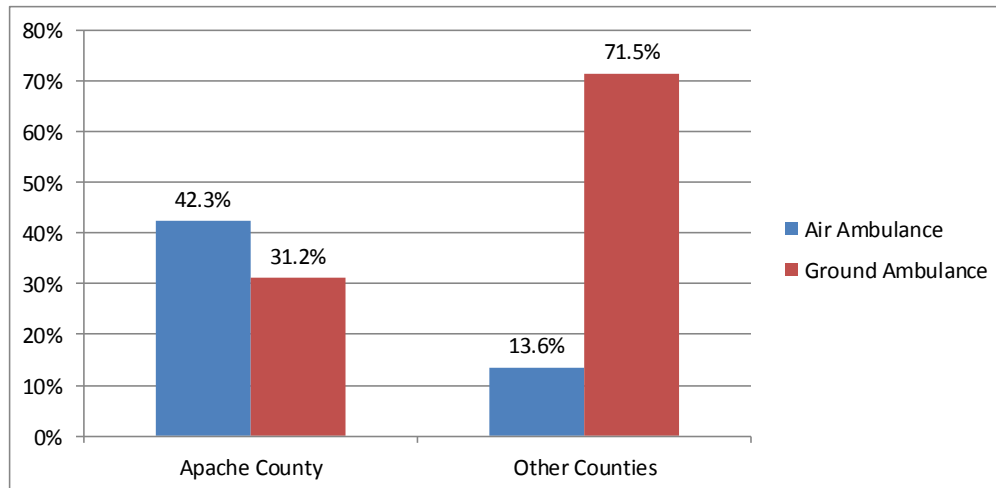


FIGURE 14: Count of ground and air ambulance transports

	Air	Ground	Other	Missing
Apache County	312	230	190	5
Other Counties	4,312	22,697	4,645	103

FIGURE 15: Golden hour by transport type

The term “golden hour” refers to the hour immediately following traumatic injury. Theoretically, the chance of survival is highest when medical treatment to prevent irreversible internal damage is obtained within this time period.

Whether traveling by air or ground ambulance, the majority of patients did not reach within this timeframe.

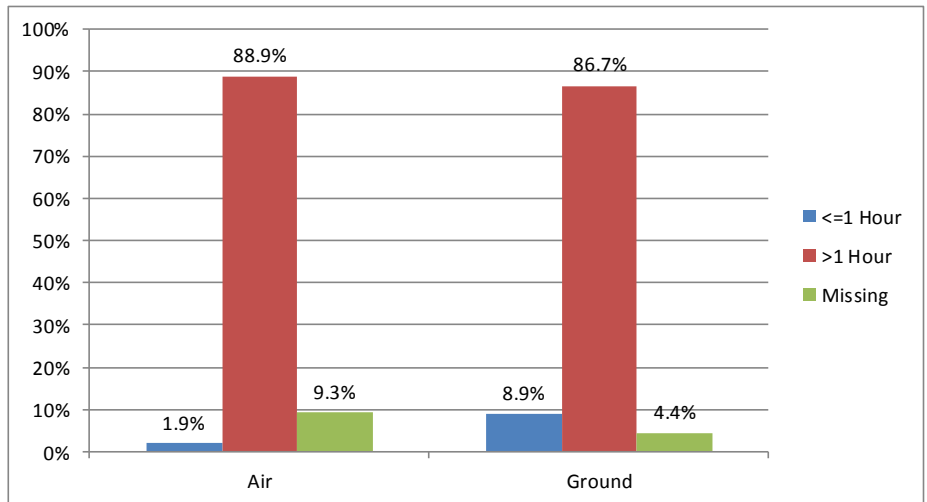


FIGURE 16: Count of golden hour by transport type to trauma center

Golden Hour	Air Ambulance		Ground Ambulance		Total	
	Count	Percent	Count	Percent	Count	Percent
<= 1 Hour	1	1.85%	4	8.89%	5	5.05%
> 1 Hour	48	88.89%	39	86.67%	87	87.88%
Missing	5	9.26%	2	4.44%	7	7.07%
Total	54	100%	45	100%	99	100%

FIGURE 17: Primary payer in Apache County

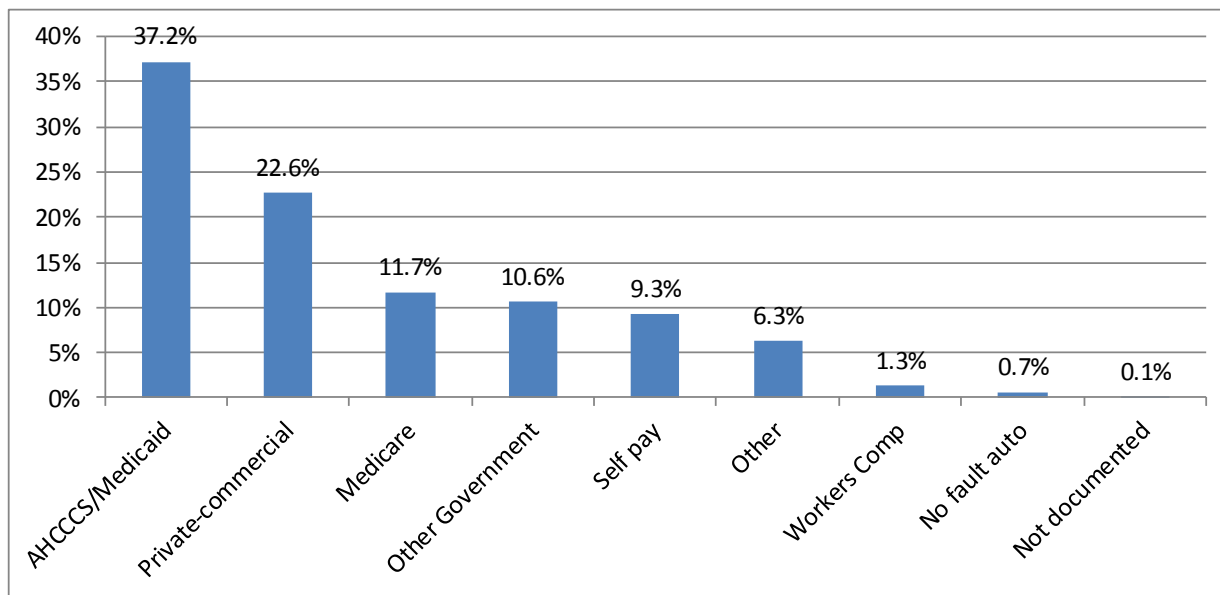


FIGURE 18: Count of primary payer in Apache County

Primary Payer	Frequency	Percent
AHCCCS/Medicaid	276	37.2%
Private-commercial	168	22.6%
Medicare	87	11.7%
Other Government	79	10.6%
Self pay	69	9.3%
Other	47	6.3%
Workers Comp	*	*
No fault auto	*	*
Not documented	*	*

AHCCCS/Medicaid is the primary payment source for trauma-related hospital visits in Apache County (Figures 17 & 18).

The median charge in Apache County in 2012 was \$17,537 (Figure 19).

FIGURE 19: Charges & reimbursement by primary payer in Apache County

Primary Payer	Total Charges	Median Charges	Total Reimbursement
AHCCCS/Medicaid	\$9,867,075	\$17,537	\$1,106,833
Private-commercial	\$3,002,871	\$14,706	\$1,183,356
Medicare	\$2,998,971	\$30,570	\$487,062
Other Government	\$3,892,901	\$32,010	\$985,706
Self pay	\$595,755	\$14,547	\$50,683
Other	\$721,164	\$0	\$11,273
Workers Comp	\$458,270	\$20,452	\$132,982
No fault auto	\$29,834	\$5,438	\$6,012
Total	\$21,566,841	\$17,944	\$3,963,907

2013 Arizona Trauma Registry Inclusion Criteria

